

United States Patent [19]

Hulbert, Jr. et al.

[11] 4,240,952

[45] Dec. 23, 1980

[54] METHOD OF MAKING CONCRETE FROM  
FLY ASH

[75] Inventors: Clarence E. Hulbert, Jr., 928 N.  
York, Muskogee, Okla. 74401;  
Liang-Tseng Fan; Mufit Akinc, both  
of Manhattan, Kans.

[73] Assignee: Clarence E. Hulbert, Jr., Muskogee,  
Okla.

[21] Appl. No.: 3,589

[22] Filed: Jan. 15, 1979

[51] Int. Cl.<sup>2</sup> ..... C04B 7/14

[52] U.S. Cl. .... 260/42.13; 106/103;  
106/97; 106/DIG. 1

[58] Field of Search ..... 106/97, 98, 103, DIG. 1;  
260/42.13, 29.63

[56] References Cited

U.S. PATENT DOCUMENTS

2,752,261 6/1956 Dournaud ..... 106/103 X  
3,565,548 2/1971 Mori et al. .... 106/DIG.1 X  
3,895,953 7/1975 Mehta ..... 106/97

FOREIGN PATENT DOCUMENTS

940692 10/1963 United Kingdom ..... 106/DIG. 1

Primary Examiner—G. O. Peters  
Attorney, Agent, or Firm—William S. Dorman

[57] ABSTRACT

In a method of making concrete of the Portland Cement type wherein a quantity of cementitious material, such as Portland Cement, is mixed with a quantity of aggregate, generally sand and rock in varying proportions and water; and, wherein, the resulting mixture is stirred or mixed for an appropriate length of time consistent with acceptable practices in the concrete industry after which the mix is poured and allowed to set, the improvement which is characterized by the employment of fly ash as the major ingredient in the cementitious material. The improvement also includes the adding of gypsum to the initial mix in an amount equal to about 2% by weight of the fly ash and, thereafter, adding in and mixing a quantity of calcium chloride equal to about 3% by weight of the fly ash. As an added feature, a quantity of organic material, such as a latex emulsion, can be added to the initial mix to improve the flow characteristics of the concrete mix and to improve the physical characteristics of the ultimate concrete.

6 Claims, No Drawings